



030560-057.ST25

SEQUENCE LISTING

<110> Altmann, Friedrich  
<120> Fucosyl Transferase Gene  
<130> 030560-057  
<140> US 09/913,858  
<141> 2001-08-20  
<150> PCT/AT00/00040  
<151> 2000-02-17  
<150> AT A 270/99  
<151> 1999-02-18  
<160> 32  
<170> PatentIn version 3.1  
<210> 1  
<211> 2198  
<212> DNA  
<213> Unknown Organism  
<220>  
<223> Description of Unknown Organism:plant

<400> 1  
actaactcaa acgctgcatt ttcttttttc ttccagggaa ccatccaccc ataacaacaa 60  
aaaaaacaac agcaagctgt gtttttttta tcgttctttt tctttaaaca agcaccacca 120  
tcatggaatc gtgctcataa cgccaaaatt ttccatttcc ctttgatttt tagtttattt 180  
tgcggaattg gcagttgggg gcgcaattga atgatgggtc tgttgacgaa tcttcgaggc 240  
tcgagaacag atggtgccca acaagacagc ttaccggtt tggctccggg aggcaacca 300  
aagaggaaat ggagcaatct aatgcctctt gttgttgccc ttgtgggtcat cgcggagatc 360  
gcgtttctgg gtaggttgga tatggccaaa aacgcgcgca tggttgactc cctcgctgac 420  
ttcttctacc gctctcgagc ggtcgttgaa ggtgacgatt tggggttggg ttggtggct 480  
tctgatcgga attctgaatc gtatagttgt gaggaatggt tggagaggga ggatgctgtc 540  
acgtattcga ggggcttttc caaagagcct atttttgttt ctggagctga tcaggagtgg 600  
aagtcgtgtt cggttggatg taaatttggg tttagtgggg atagaaagcc agatgccgca 660  
tttgggttac ctcaaccaag tggaaacagct agcattctgc gatcaatgga atcagcagaa 720  
tactatgctg agaacaatat tgccatggca agacggaggg gatataacat cgtaatgaca 780  
accagtctat cttcggatgt tctgttgga tatttttcat gggctgagta tgatatgatg 840  
gcaccagtgc agccgaaaac tgaagctgct cttgcagctg ctttcatttc caattgtggg 900  
gctcgaaatt tccggttgca agctcttgag gcccttgaaa aatcaaacat caaaattgat 960  
tcttatggtg gttgtcacag gaaccgtgat ggaagagtga acaaagtga agccctgaag 1020  
cactacaaat ttagcttagc gtttgaaaat tcgaatgagg aagattatgt aactgaaaaa 1080  
ttcttccaat cccttggtgc tggaaactgtc cctgtggttg ttggtgctcc aaatattcag 1140  
gactttgtct cttctcctgg ttcaatttta catattaaag agatagagga tgttgagtct 1200  
gttgcaaaga ccatgagata tctagcagaa aatcccgaag catataatca atcattgagg 1260  
tggaaagtatg aggggtccatc tgactccttc aaggcccttg tggatatggc agctgtgcat 1320  
tcatcggtgc gtctttgcat tcacttgccc acagttagta gagagaagga agaaaataat 1380  
ccaagcctta agagacgtcc ttgcaagtgc actagagggc cagaaaccgt atatcatatc 1440  
tatgtcagag aaaggggaag gtttgagatg gagtccattt acctgagggtc tagcaattta 1500  
actctgaatg ctgtgaaggc tgctgttgtt ttgaagtcca catccctgaa tcttgtgcct 1560

```

gtatggaaga ctgaaaggcc tgaagttata agagggggga gtgcttttaa actctacaaa 1620
atatacccaa ttggcttgac acagagacaa gctctttata ccttcagctt caaagggtgat 1680
gctgatttca ggagtcactt ggagaacaat ccttggtgcca agtttgaagt catttttgtg 1740
tagcatgccc taaatggtac ctctgctcta cctgaattag cttcacttag ctgagcacta 1800
gctagagttt taggaatgag tatggcagtg aatatggcat ggctttatct atgcctagtt 1860
tcttggccaa ctcatgatg ttttgtataa gacatcacac ttttaattta aacttggttc 1920
tgtagaagtg caaatccata tttaatgctt agtttttagtg ctcttatctg atcatctaga 1980
agtcacagtt cttgtatatt gtgagtgaat actgaaatct aatagaagga tcagatgttt 2040
cactcaagac acattattac ttcattgttg tttgatgac tcgagctttt ttagtgtctg 2100
gaactgtccc tgtggtttga gcacctgtta ttgcttcagt gttactgtcc agtggtttatc 2160
gtttttgacc tctaaaaaaa aaaaaaaaaa aaaaaaaa 2198

```

```

<210> 2
<211> 510
<212> PRT
<213> Unknown Organism

```

```

<220>
<223> Description of Unknown Organism:plant

```

```

<400> 2
Met Met Gly Leu Leu Thr Asn Leu Arg Gly Ser Arg Thr Asp Gly Ala
 1             5             10             15

Gln Gln Asp Ser Leu Pro Val Leu Ala Pro Gly Gly Asn Pro Lys Arg
      20             25             30

Lys Trp Ser Asn Leu Met Pro Leu Val Val Ala Leu Val Val Ile Ala
 35             40             45

Glu Ile Ala Phe Leu Gly Arg Leu Asp Met Ala Lys Asn Ala Ala Met
 50             55             60

Val Asp Ser Leu Ala Asp Phe Phe Tyr Arg Ser Arg Ala Val Val Glu
 65             70             75             80

Gly Asp Asp Leu Gly Leu Gly Leu Val Ala Ser Asp Arg Asn Ser Glu
      85             90             95

Ser Tyr Ser Cys Glu Glu Trp Leu Glu Arg Glu Asp Ala Val Thr Tyr
 100             105             110

Ser Arg Gly Phe Ser Lys Glu Pro Ile Phe Val Ser Gly Ala Asp Gln
 115             120             125

Glu Trp Lys Ser Cys Ser Val Gly Cys Lys Phe Gly Phe Ser Gly Asp
 130             135             140

Arg Lys Pro Asp Ala Ala Phe Gly Leu Pro Gln Pro Ser Gly Thr Ala
 145             150             155             160

Ser Ile Leu Arg Ser Met Glu Ser Ala Glu Tyr Tyr Ala Glu Asn Asn
 165             170             175

Ile Ala Met Ala Arg Arg Arg Gly Tyr Asn Ile Val Met Thr Thr Ser
 180             185             190

Leu Ser Ser Asp Val Pro Val Gly Tyr Phe Ser Trp Ala Glu Tyr Asp

```

195					200					205				
Met	Met	Ala	Pro	Val	Gln	Pro	Lys	Thr	Glu	Ala	Ala	Leu	Ala	Ala
210					215					220				
Phe	Ile	Ser	Asn	Cys	Gly	Ala	Arg	Asn	Phe	Arg	Leu	Gln	Ala	Leu
225					230					235				240
Ala	Leu	Glu	Lys	Ser	Asn	Ile	Lys	Ile	Asp	Ser	Tyr	Gly	Gly	Cys
				245					250					255
Arg	Asn	Arg	Asp	Gly	Arg	Val	Asn	Lys	Val	Glu	Ala	Leu	Lys	His
			260					265					270	Tyr
Lys	Phe	Ser	Leu	Ala	Phe	Glu	Asn	Ser	Asn	Glu	Glu	Asp	Tyr	Val
		275					280					285		Thr
Glu	Lys	Phe	Phe	Gln	Ser	Leu	Val	Ala	Gly	Thr	Val	Pro	Val	Val
	290					295					300			
Gly	Ala	Pro	Asn	Ile	Gln	Asp	Phe	Ala	Pro	Ser	Pro	Gly	Ser	Ile
305					310					315				320
His	Ile	Lys	Glu	Ile	Glu	Asp	Val	Glu	Ser	Val	Ala	Lys	Thr	Met
			325					330						335
Tyr	Leu	Ala	Glu	Asn	Pro	Glu	Ala	Tyr	Asn	Gln	Ser	Leu	Arg	Trp
			340					345					350	Lys
Tyr	Glu	Gly	Pro	Ser	Asp	Ser	Phe	Lys	Ala	Leu	Val	Asp	Met	Ala
		355					360					365		Ala
Val	His	Ser	Ser	Cys	Arg	Leu	Cys	Ile	His	Leu	Ala	Thr	Val	Ser
	370					375					380			Arg
Glu	Lys	Glu	Glu	Asn	Asn	Pro	Ser	Leu	Lys	Arg	Arg	Pro	Cys	Lys
385					390					395				400
Thr	Arg	Gly	Pro	Glu	Thr	Val	Tyr	His	Ile	Tyr	Val	Arg	Glu	Arg
				405					410				415	Gly
Arg	Phe	Glu	Met	Glu	Ser	Ile	Tyr	Leu	Arg	Ser	Ser	Asn	Leu	Thr
			420					425					430	Leu
Asn	Ala	Val	Lys	Ala	Ala	Val	Val	Leu	Lys	Phe	Thr	Ser	Leu	Asn
		435					440					445		Leu
Val	Pro	Val	Trp	Lys	Thr	Glu	Arg	Pro	Glu	Val	Ile	Arg	Gly	Gly
	450					455					460			Ser
Ala	Leu	Lys	Leu	Tyr	Lys	Ile	Tyr	Pro	Ile	Gly	Leu	Thr	Gln	Arg
465					470					475				480
Ala	Leu	Tyr	Thr	Phe	Ser	Phe	Lys	Gly	Asp	Ala	Asp	Phe	Arg	Ser
				485					490					495
Leu	Glu	Asn	Asn	Pro	Cys	Ala	Lys	Phe	Glu	Val	Ile	Phe	Val	
			500					505					510	

<210> 3  
 <211> 105  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: GlcNAc-alpha1,3-fucosyl

<400> 3  
 gaagccctga agcactacaa atttagctta gcgtttgaaa attcgaatga ggaagattat 60  
 gtaactgaaa aattcttcca atcccttggt gctggaactg tccct 105

<210> 4  
 <211> 35  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mung bean

<400> 4  
 Glu Ala Leu Lys His Tyr Lys Phe Ser Leu Ala Phe Glu Asn Ser Asn  
 1 5 10 15

Glu Glu Asp Tyr Val Thr Glu Lys Phe Phe Gln Ser Leu Val Ala Gly  
 20 25 30

Thr Val Pro  
 35

<210> 5  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:n-terminal sequence  
 of tryptic peptide

<220>  
 <221> MISC\_FEATURE  
 <222> (5)..(5)  
 <223> Xaa = any amino acid

<400> 5

Lys Pro Asp Ala Xaa Phe Gly Leu Pro Gln Pro Ser Thr Ala Ser  
 1 5 10 15

<210> 6  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:n-terminal sequence  
of tryptic peptide

&lt;400&gt; 6

Pro Glu Thr Val Tyr His Ile Tyr Val Arg  
1 5 10

&lt;210&gt; 7

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:n-terminal sequence  
of tryptic peptide

&lt;400&gt; 7

Met Glu Ser Ala Glu Tyr Tyr Ala Glu Asn Asn Ile Ala  
1 5 10

&lt;210&gt; 8

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:n-terminal sequence  
of tryptic peptide

&lt;400&gt; 8

Gly Arg Phe Glu Met Glu Ser Ile Tyr Leu  
1 5 10

&lt;210&gt; 9

&lt;211&gt; 29

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:primer

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (3)..(15)

&lt;223&gt; n = any nucleotide

&lt;400&gt; 9

gcngartayt aygcngaraa yaayathgc.

29

&lt;210&gt; 10

&lt;211&gt; 22

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

```

<220>
<223> Description of Artificial Sequence:primer

<220>
<221> misc_feature
<222> (14)..(17)
<223> n = any nucleotide

<400> 10
crtadatrtg rtanacngty tc                                     22

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer

<220>
<221> misc_feature
<222> (6)..(6)
<223> n = any nucleotide

<400> 11
tadatnswyt ccatytcraa                                       20

<210> 12
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer

<400> 12
ctggaactgt ccctgtggtt                                       20

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer

<400> 13
agtgcactag agggccagaa                                       20

<210> 14
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer

```

<400> 14  
 ttcgagcacc acaattggaa at 22  
  
 <210> 15  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:primer  
  
 <400> 15  
 gaatgcaaag acggcacgat gaat 24  
  
 <210> 16  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:primer  
  
 <400> 16  
 cggcggatcc gcaattgaat gatg 24  
  
 <210> 17  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:primer  
  
 <400> 17  
 ccggctgcag taccatttag cgcac 25  
  
 <210> 18  
 <211> 35  
 <212> PRT  
 <213> Mung Bean  
  
 <400> 18  
 Glu Ala Leu Lys His Tyr Lys Phe Ser Leu Ala Phe Glu Asn Ser Asn  
 1 5 10 15  
 Glu Glu Asp Tyr Val Thr Glu Lys Phe Phe Gln Ser Leu Val Ala Gly  
 20 25 30  
 Thr Val Pro  
 35  
  
 <210> 19  
 <211> 36  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 19  
 Glu Thr Leu Ser Arg Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Leu

1	5	10	15
His Pro Asp Tyr Ile Thr Glu Lys Leu Trp Arg Asn Ala Leu Glu Ala			
20	25	30	
Trp Ala Val Pro			
35			

<210> 20  
 <211> 36  
 <212> PRT  
 <213> Chin. Hampster

<400> 20
Gly Thr Leu Ala Arg Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Leu
1 5 10 15
His Pro Asp Tyr Ile Thr Glu Lys Leu Trp Lys Asn Ala Leu Glu Ala
20 25 30
Trp Ala Val Pro
35

<210> 21  
 <211> 36  
 <212> PRT  
 <213> Homo sapiens

<400> 21
Pro Thr Val Ala Gln Tyr Arg Phe Tyr Leu Ser Phe Glu Asn Ser Gln
1 5 10 15
His Arg Asp Tyr Ile Thr Glu Lys Phe Trp Arg Asn Ala Leu Val Ala
20 25 30
Gly Thr Val Pro
35

<210> 22  
 <211> 36  
 <212> PRT  
 <213> Mouse

<400> 22
Pro Thr Leu Ala Arg Tyr Arg Phe Tyr Leu Ala Phe Glu Asn Ser Gln
1 5 10 15
His Arg Asp Tyr Ile Thr Glu Lys Phe Trp Arg Asn Ala Leu Ala Ala
20 25 30
Gly Ala Val Pro
35

<210> 23  
 <211> 36  
 <212> PRT  
 <213> Homo sapiens

<400> 23
His Thr Val Ala Arg Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Gln
1 5 10 15
His Leu Asp Tyr Ile Thr Glu Lys Leu Trp Arg Asn Ala Leu Leu Ala



20 25 30  
 Gly Ala Val Pro  
 35

<210> 24  
 <211> 36  
 <212> PRT  
 <213> Mouse

<400> 24  
 His Thr Val Ala Arg Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Arg  
 1 5 10 15  
 His Val Asp Tyr Ile Thr Glu Lys Leu Trp Arg Asn Ala Phe Leu Ala  
 20 25 30  
 Gly Ala Val Pro  
 35

<210> 25  
 <211> 36  
 <212> PRT  
 <213> Rat

<400> 25  
 His Thr Val Ala Arg Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Gln  
 1 5 10 15  
 His Val Asp Tyr Asn Thr Glu Lys Leu Trp Arg Asn Ala Phe Leu Ala  
 20 25 30  
 Gly Ala Val Pro  
 35

<210> 26  
 <211> 36  
 <212> PRT  
 <213> Chicken

<400> 26  
 Lys Thr Val Ser Ala Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Gln  
 1 5 10 15  
 His Thr Asp Tyr Ile Thr Glu Lys Leu Trp Lys Asn Ala Phe Ala Ala  
 20 25 30  
 Ser Ala Val Pro  
 35

<210> 27  
 <211> 35  
 <212> PRT  
 <213> Mouse

<400> 27  
 Pro Thr Ile Ser Thr Cys Lys Phe Tyr Leu Ser Phe Glu Asn Ser Ile  
 1 5 10 15  
 His Lys Asp Tyr Ile Thr Glu Lys Leu Tyr Asn Ala Phe Leu Ala Gly  
 20 25 30  
 Ser Val Pro

35

<210> 28  
 <211> 35  
 <212> PRT  
 <213> Dictyostelium discoideum

<400> 28  
 Asp Val Leu Lys Arg Tyr Asn Phe Ala Ile Ala Phe Glu Asn Ser Leu  
 1 5 10 15  
 Cys Lys Asp Tyr Ile Thr Glu Lys Leu Trp Glu Ser Leu Ser Val Gly  
 20 25 30  
 Thr Ile Pro  
 35

<210> 29  
 <211> 35  
 <212> PRT  
 <213> Helicobacter pylori

<400> 29  
 Glu Phe Leu Ser Gln Tyr Lys Phe Asn Leu Cys Phe Glu Asn Ser Gln  
 1 5 10 15  
 Gly Tyr Gly Tyr Val Thr Glu Lys Ile Leu Asp Ala Tyr Phe Ser His  
 20 25 30  
 Thr Ile Pro  
 35

<210> 30  
 <211> 35  
 <212> PRT  
 <213> Helicobacter pylori

<400> 30  
 Glu Phe Leu Ser Gln Tyr Lys Phe Asn Leu Cys Phe Glu Asn Thr Gln  
 1 5 10 15  
 Gly Tyr Gly Tyr Val Thr Glu Lys Ile Ile Asp Ala Tyr Phe Ser His  
 20 25 30  
 Thr Ile Pro  
 35

<210> 31  
 <211> 36  
 <212> PRT  
 <213> Caenorhabditis elegans

<400> 31  
 Met Leu Asp Thr Asp Tyr His Phe Tyr Val Thr Phe Glu Asn Ser Ile  
 1 5 10 15  
 Cys Glu Asp Tyr Val Thr Glu Lys Leu Trp Lys Ser Gly Tyr Gln Asn  
 20 25 30  
 Thr Ile Ile Pro  
 35

<210> 32  
 <211> 36  
 <212> PRT  
 <213> Cattle

<400> 32  
 Lys Gln Leu Ser Gln Tyr Lys Phe Tyr Leu Ala Phe Glu Asn Ser Leu  
 1 5 10 15  
 His Pro Asp Tyr Ile Thr Glu Lys Leu Trp Arg Asn Ala Leu Gln Ala  
 20 25 30  
 Trp Ala Val Pro  
 35